

# Studies in Chinese Fungi.

(With Plate I.)

By

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The following descriptions are based on the materials collected by myself in South China in 1908, and in Peking and its vicinity in 1910 and 1911. Most of them are already known from other parts of the world, but some of them are new, as far as I can aware. Besides there are a few species which are unable to be exactly determined at present. As our knowledge of the fungal flora of China is very meagre, I intend to make further collections and continue the study.

## Phycomycetes.

**Cystopus candidus** LÉV., SACC., Syll. VII. p. 334; SORAUER, Pflzkr. II, p. 130 Fig. 18; PRILLIEUX, Malad. pl. agric., I, p. 62, fig. 28-30; ENGLER, Pflzfam. I. I., p. 46 fig. 31, p. 108 fig. 72 et p. 111 fig. 94-95.

On *Brassica campestris* L. (Peking; Oct. 1910).

This fungus is very common in vegetable gardens in Peking and its vicinity.

**Cystopus Ipomeæ-panduratæ** (SCHW.) STEV. et SW. SACC., Syll., IX. p. 341; ENGLER, Pflzfam. I. I., p. 112.

On *Pharbitis hederacea* L. (Peking; Oct. 1910).

**Cystopus Tragopogonis** (PERS.) SCHRÖT. SACC., Syll. VII. p. 234; PRILLIEUX, Malad. pl. agric. I. p. 69, fig. 31-32.

On *Saussurea* sp. (Peking; Sept. 1911).

**Phytophthora infestans** DE BARY. SACC., Syll. VII. p. 237;

SORAUER, Pflzkr. II. p. 132, fig 18; PRILLIEUX, Malad. pl. agric. I. p. 78, fig. 38-40.

On *Lycopersicum esculentum* MILL. (Peking; Oct. 1910).

**Peronospora effusa** RABH. SACC., Syll. VII. p. 256; SORAUER, Pflzkr. II. p. 166; PRILLIEUX, Malad. pl. agric. I. p. 142, fig. 53; ENGLER, Pflzfam. I. I. p. 118.

On *Chenopodium album* L. (Peking; Oct. 1910).

On *Spiracea oleracea* MOLL. (Fengtai near Peking; Oct. 1910).

Very commonly one or two yellowish white spots of roundish or irregular forms, 5-10 m.m. in diameter, appear on each attacked leaf; very common in Peking.

**Peronoplasmodium cubensis** (B. et C.) CLINT. SACC., Syll. VII. p. 261; SORAUER, Pflzkr. II. p. 162; MIYABE et TAKAHASHI, in Transact. Sapporo Natural History Society, Vol. I. part II. p. 149.

On *Cucurbita* sp. (Prov. Chinshi, Hunan; Oct. 11, 1908).

On *Cucumis Melo* L. (Peking; Oct. 1910).

In Peking and its vicinity this fungus is not rare. It forms yellowish spots but a little smaller than in the case of *Peronospora effusa* RABH., but I could not observe the black rotten leaves that are characteristic symptoms of mildew diseases; I think this is due to the dry season, as, on the contrary, in Hunan where the quantity of rainfall is much larger, I have seen many with these symptoms.

**Sclerospora graminicola** SCHRÖT. SACC., Syll. VII. p. 238; SORAUER, Pflzkr. II. p. 152; ENGLER, Pflzfam. I. I. p. 114 fig. 99.

On *Setaria italica* KTH. (Mountainous regions, northwest of Iichang, Hupei., Sept. 25, 1908).

On *Setaria glauca* BEAUV. (Peking; Oct. 1910).

I saw very few plants infected by this fungus here, this was probably due to the lateness of the season. On the other hand, in the mountainous regions of Iichang, Hupei, I have observed very many attacked plants with special whisklike upper leaves or abnormal ears and this fungus causes great damage to the cultivators there, while in the lower plains of the Yangtz river I could not find any, though I searched for one very carefully.

### Ascomycetes.

**Penicillium glaucum** LINK. SACC., Syll. IV. p. 78; BERLESE, Fungi moric., Fasc. VII. n. 6, Tab. 55 fig. 4-7; ENGLER, Pflzfam. I. I. p. 304, fig. 316.

On Fruit of *Pirus Malus* L. (Peking; Nov. 1910).

This fungus is very common in Peking and causes soft rot in apples.

**Sphaerotheca Humuli** BURR. var. **fuliginosa** (SCHLECHT.) SALM. SALMON, Monogr. Erysiph., p. 49.

On *Bidens pilosa* L. (Peking; Oct. 1910).

On *Taraxacum officinale* WIGG. (Peking; Oct. 1910).

On *Impatiens Balsamina* L. (Peking; Oct. 1910).

This fungus is very common in Peking and its vicinity.

**Erysiphe Cichoracearum** DC. SALMON, Monogr. Erysiph., p. 127; SORAUER, Pflzkr. II, p. 199.

On *Plantago major* L. (Peking; Oct. 1910).

On *Artemisia vulgaris* L. var. *indica* MAXIM. (Peking; Oct. 1910).

On *Cucurbita* sp. (Prov. Iichang, Hupei; Sept. 24. 1908).

**Erysiphe Polygoni** DC. SACC., Syll. I. p. 18; SALMON, Monogr. Erysiph. p. 174; PRILLIEUX, Malad. pl. agric. II. p. 14, fig. 196-199; ENGLER, Pflzfam. I. I. p. 331 fig. 229; SORAUER, Pflzkr. II. p. 199.

On *Fagopyrum esculentum* MOENCH. Peking; Oct, 1910).

On *Astragalus tenuis* TURCZ. (Peking; Oct. 1910).

This fungus is so widely diffused here that in every field of buckwheat its presence can easily be found by the white spots which it causes.

**Uncinula Mori** MIYAKE. MIYAKE, in Botan. Magaz. Tōkyō, 21 (1907) p. 5-6.

On *Morus alba* L. (Prov. Tauen-shen, Hunan; Oct. 1908).

After this fungus was discovered by me near Nikkō, Japan, Mr. K. HARA observed it in the province of Mino, and Mr. YOSHINAGA collected it in the province of Tosa, but its occurrence in Japan seems to me very rare. On the contrary, accord-

ing to my observation, it is the sole white rust on mulberry-trees in the province of Hunan, and the other fungus *Phyllactinia Corylea* SACC. et SYD. is not found at all.

**Phyllactinia Corylea** SACC. et SYD. SACC., Syll. I. p. 5; SORAUER, Pflzkr. II. p. 199, fig. 28; PRILLIEUX, Malad. pl. agric. II. p. 29; ENGLER, Pflzfam. I. I. p. 332, fig. 230.

On *Morus alba* L. (Soochou, Kiangsoo; Nov. 1908; and Peking; Oct. 1910).

On *Ailanthus glandulosa* DESF. (Peking; Oct. 1910).

**Aciculosporium Take** MIYAKE. MIYAKE, in Botan. Magaz, Tōkyō n. 259 (1908) p. 305.

On *Phyllostachys* sp. (Sangteh, Hunan; Oct. 1908 and Soochou, Kiangsoo; Nov. 1908).

**Gibberella moricola** (CES. et DE NOT.) SACC. SACC., Syll. II. p. 553; BERLESE, Fungi. moric., fasc. VII, n. 26, tab. 40 fig. 6-11; BRIOSI et FARNETI, in Atti Istit. Botan. Pavia, 2, ser. X. s. 1; SORAUER, Pflzkr. II. p. 464.

On *Morus alba* L. (Tōshan, Sangteh, Hunan; Oct. 1808).

It is well known that the conidiaform of *Gibberella baccata* (WALLR.) SACC. is *Fusarium latesitium* NEES. according to SACCARDO's Sylloge Fungorum, and that that of the present species is a certain *Fusarium* according to BRIOSI and FARNETI's study. The difference between *G. baccata* and *G. moricola* is only in the size of ascospores, and I have some reasons for believing this difference arises probably from the result of erroneous measurement, so we may consider the two species as identical, the former being but another name for the latter. *Fusarium Urticearum* (CORDA.) SACC., a parasite on the branches of the mulberry-tree, which differs from *F. latesitium* only in the size of spores and color of strōma according to BERLESE, belongs to this species, for the young state of the latter exactly coincides with the description of the former; from above points of view, I am led to believe that these three species are in reality the *G. moricola*. As I am now studying the fungi of mulberry-trees, I will hereafter publish the details of this investigation.

**Ustilaginoidea Penniseti** sp. nov.

Attacked glumes become swelled, several times larger than common one, black; sclerotium spherical, dark-black, densely verrucose, 22–28 in diameter.

On *Pennisetum compressum* R. BR. (Shinchou, Hunan; Oct. 14, 1908).

According to SACCARDO's *Sylloge Fungorum*, we have five species *Ustilaginoidea*, that is *U. vierens* TAK., *U. Setariae* BREF., *U. mossambicensis* P. HENN., *U. ochracea* P. HENN. and *U. usambariensis* P. HENN., but my species is quite different in its colour from the former two and in its size of sclerotium, from the others.

**Phyllachora graminis** FCKL. SACC., *Syll.* II. p. 602 et IX. p. 1026; SORAUER, *Pflzkr.* II. p. 222; ENGLER, *Pflzfam.* I. I. p. 381 fig. 251.

On *Miscanthus sinensis* AUD. (prov. Iichang, Hupei; Sept. 25, 1908).

**Melanomma glumarum** MIYAKE. MIYAKE, in *Journal College Agric. Tōkyō*, 2 (1910) *Tafel* 13 fig. 1–3.

On *Oryza sativa* L. (Soochou, Kiangsoo; Nov. 1908).

According to Mr. K. HARA, this fungus was very common in the vicinity of Tōkyō and paraphyses which in my description are not mentioned, exist also. When I got it for the first time in Soochou it was nearly the end of the harvest season, therefore my materials were scarcely enough to determine its characteristics and for this reason my observations are imperfect. I am grateful to Mr. K. HARA for supplying to me these details which I was unable to get from personal observation.

**Mycosphaerella Pomacearum** SACC. SACC., *Syll.* I. p. 482.

On *Pirus Malus* L. (Peking; Oct. 1910).

This fungus appears together with certain conidiaform, *Phyllosticta*, *Coniothyrium* and *Hendersonia* in one spot, but not with *Septoria*, *Diplodia*, etc. as in SACCARDO's *Sylloge Fungorum*. In spite of the differences of conidiaform I put the present species under this name because the ascoform is the same in both and those conidiaforms naturally are very closely related.

**Mycosphaerella Schoenoprasii** AUERSW. SACC., Syll. I. p. 522.

On *Allium fistulosum* L. (Peking ; Dec. 1910).

On onion in Markets of Peking in wintertime it can be found commonly.

**Mycosphaerella morifolia** PASS. SACC., Syll. IX. p. 647 ; PRILLIEUX, Malad. pl. agric. II. p. 280, fig. 360 ; BERLESE, Fungi moric. fasc. VII. n. 4, tab. 24 fig. 9-12.

On *Morus abla* L. (Shashi, Hupei ; Oct. 8, 1908).

**Phaeosphaeria Oryzæ** MIYAKE MIYAKE, in Journal College Agric. Tokyo, 2 (1910) Tafel 13 fig. 15-17.

On *Oryza sativa* L. (near Ryangshan, Sangteh, Hunan ; Oct. 1908. Peking ; Oct. 1910).

In the vicinity of Peking I have observed that this fungus is commonly accompanied by its conidiaform, *Phyllosticta Orzæ* HORI.

### Ustilagineæ.

**Ustilago esculenta** P. HENN. SACC., Syll. IX. p. 232 ; HORI : on *U. esculenta* in Annal. Mycol., (1907) pl. 6-7.

On *Zizania aquatica* L. (very common in Hunan. Peking ; Nov. 1910).

Dr. S. HORI has described the details of this interesting economic fungus and adds that he has observed the presence of fine echinulation on the surface of a fresh spore, but my observation made on fresh spores here failed to find it exactly coinciding with P. HENNING's and Prof. Dr. K. MIYABE's descriptions.

**Ustilago Rabenhorstiana** KUHN. SACC., Syll. VII. p. 471 ; SORAUER, Pflzkrankh. II. p. 325.

On *Panicum sanguinale* L. var. *ciliare* GREX. et GODR. (Mentoukou, near Peking ; Oct. 1910).

**Ustilago Reiliana** KUHN. SACC., Syll. VII. p. 471 ; SORAUER, Pflzkr. II. p. 322.

On *Andropogon Sorghum* BROTH. var. *vulgaris* HACK. (Shashi, Hupei ; Oct. 4, 1908).

**Ustilago Sorghi** (LINK.) PASS. SACC., Syll. VII. p. 456 ; SORAUER, Pflzkrankh. II. p. 321 ; PRILLIEUX, Malad. pl. agric. I. p. 175 fig. 68 ; ENGLER, Pflzfam. I. 1\*\* p. 8 fig. 5.

On *Andropogon Sorghum* BROT. var. *vulgaris* HACK. (Mentoukou, near Peking ; Oct. 1910).

**Ustilago Crameri** KÖRN. SACC., Syll. p. 455 ; SORAUER, Pflzkrankh. II. p. 324.

On *Setaria viridis* BEAUV. (Tōshan, Sangteh, Hunan ; Oct. 5, 1908).

On *Setaria italica* KTH. (Peking ; Sept. 1911).

**Ustilago Setariæ** RABH. SACC., Syll. VII. p. 471.

On *Setaria viridis* BEAUV. (Peking ; Oct. 1910).

**Ustilago Maydis** (DC.) CORDA. SACC., Syll. VII. p. 472 ; ENGLER ; Pflzfam. I. 1\*\* p. 8 fig. 5 ; SORAUER, Pflzkrankh. II. p. 318 fig. 45 ; PRILLIEUX, Malad. pl. agric. I. p. 170 fig. 67.

On *Zea majus* L. (Prov. Iichang, Hupei ; Sept. 25, 1908. Peking ; Oct. 1910).

It seems to me that this fungus is very common in China.

**Ustilago Tritici** JENS. SACC., Syll. IX. p. 283 ; SORAUER, Pflzkrankh. II. p. 317 ; ENGLER, Pflzfam. I. 1\*\* p. 8 fig. 5.

On *Triticum sativum* LAM. var. *vulgare* (VILL.) HACK. (Fengtai near Peking ; May 24, 1911).

**Ustilago utriculosa** (NEES.) TUL. SACC., Syll. VII. p. 476 ; SYDON et BUTLER : Fungi Ind. orient. in Annal. Mycol. (1907) n. 6, p. 485 fig. 1.

On *Polygonum* sp. (Peking ; Sept. 1911).

**Urocystis occulta** RABH. SACC., Syll. VII. p. 515 ; ENGLER, Pflzfam. I. 1\*\* p. 19 ; PRILLIEUX, Malad. pl. agric. I. p. 187 fig. 71.

On *Triticum sativum* LAM. var. *vulgare* (VILL.) HACK. (very common in Peking and its vicinity ; May 1911) ;

### Uredineæ.

**Uromyces appendiculatus** LINK. SACC., Syll. VII. p. 535 ; ENGLER, Pflzfam. I. 1\*\* p. 56 fig. 37 ; PRILLIEUX, Malad. pl. agric. I. p. 247 fig. 93.

On *Phaseolus vulgaris* L. (Mentoukou near Peking; Oct. 1910).

**Uromyces Astragali** (Opiz.) SACC. SACC., Syll. VII. p. 550.

On *Astragalus scaberrimus* BGE. (Peking; Oct. 1910).

**Uromyces Junci** (DESM.) TUL. SACC., Syll. VII. p. 541.

On *Scirpus triquetter* L. (Iichang, Hupei; Sept. 24. 1908).

There are no telentospores on my material, but the form of uredospores coincides exactly with the description of this fungi.

**Uromyces Lospedezæ** (SCHWEIN.) PECK. SACC., Syll. VII. p. 549.

On *Lespedeza floribunda* BGE. (Mentonkou near Peking; Oct. 1910).

**Uromyces Setariæ-italicæ** (DIET.) YOSHINO. YOSHINO, in Botan. Magaz. Tōkyō, 20 (1906) p. 247; S. Itō, in Journal College Agricult. Sapporo, Vol. 3 (1909) n. 2 p. 185 pl. 10 fig. 4.

On *Setaria italica* KTH. (Iichang, Hupei; Sept. 25, 1908).

On *Setaria viridis* BEAUV. (Peking; Oct. 1910).

**Puccinia Phragmitis** (SCHUM.) KÖRN. SACC., Syll. VII. p. 630; SORAUER, Pflzkrankh. II. p. 367.

On *Phragmitis communis* L. (Peking; Oct. 1910).

**Puccinia Iridis** (DC.) WALLR. SACC., Syll. VII. p. 657; SORAUER, Pflzkrankh. II. p. 368.

On *Iris setosa* PALL. (Peking; Oct. 1910).

**Puccinia Convolvuli** (PERS.) CAST. SACC., Syll. VII. p. 610; SORAUER, Pflzkrankh. II. p. 368.

On *Calystegia sepium* R. BR. (Peking; Oct. 1910).

**Puccinia Helianthi** SCHW. SACC., Syll. VII. p. 603; SORAUER, Pflzkrankh. II. p. 368; ENGLER, Pflzfam. I. 1<sup>st</sup> p. 64 fig. 41.

On *Helianthus annuus* L. (Chefoo, Shantung; Sept. 1910 and Peking; Oct. 1910).

### Fungi imperfecti.

**Phyllosticta Phaseolina** SACC. SACC., Syll. III. p. 41.

On *Phaseolus radiatus* LINN. (Iichang, Hupei; Sept. 25, 1908).

**Phyllosticta hortorum** SPEG. SACC., Syll. III. p. 49.

On *Solanum Melongena* L. (Iichang, Hupei; Sept. 25, 1908. Tauen-shen, Hupei; Oct. 11, 1908).

**Phyllosticta populea** SACC. SACC., Syll. III. p. 33.

On *Populus* sp. (Peking; Oct. 1910).

**Macrophoma Sophoræ** sp. nov.

Spots, on leaves, yellowish brown with narrow black peripheries and concentric rings becoming at centre a little bleached and having on the latter small black points, roundish, 4–6 mm. in diameter, after confluent forming large irregular specks; pycnidia, amphigenous, scattered, half immersed into the tissue, comparatively thick pseudoparenchymatic, black, spherical, ca. 150  $\mu$  in diameter (Fig. 1); conidia, hyaline, fusiform, 16–20  $\mu$  long, 4  $\mu$  broad; basidia small (Fig. 2.)

On *Sophora japonica* L. (Peking; Oct. 1911).

There is no species of *Macrophoma* on *Sophora* so far as I know, therefore I have considered the present species as a new one and have given the name, *M. Sophoræ*.

**Cicinnobolus Kusanoi** P. HENN. SACC., Syll. XVIII. p. 284.

On *Oidium* on *Cucurbita* sp. (Peking; Oct. 1910).

**Vermicularia graminicola** WESTD. SACC. Syll. III. p. 235.

On *Andropogon Sorghum* BROT. var. *vulgaris* HACK. (Shashi, Hupei; Oct. 3. 1908. Peking; Oct. 1910).

This fungus is very common in the fields.

**Conisthyrium Kraunhiæ** sp. nov.

Spots, on leaves, large, roundish of various size, light yellowish brown with dark brown peripheries; pycnidia, amphigenous, immersed into the tissue and having openings for their mouths, spherifal, or ellipsoidal, 80–100  $\mu$  high, 60–80  $\mu$  broad, light brown (Fig. 3); conidia ellipsoidal, dark, 5–8  $\mu$  long, 3–4  $\mu$  broad; basidia small (Fig. 4).

On *Kraunhia floribunda* TAUB. (Peking; Oct. 1910).

As I was not able to find any species of *Conisthysium* which is parasitic on *Kraunhia* I have considered the present species to be new and named it *C. Kraunhiæ*.

**Nothopatella chinensis** sp. nov.

Stroma, on branches, at first covered by the epidermis, then

appearing as warty black shots with ruptured remains, discal, usually densely aggregate, becoming on the upper surface somewhat greyish,  $\frac{1}{2}$ —1.5 mm. in diameter, 0.35—0.40 mm. thick, frequently two or even more of them confluent forming a large one, pseudoparenchymatic; pycnidia, immersed into stroma in one row, commonly ellipsoidal, but globose near the margin, without mouth, 160—200  $\mu$  long, 80—120  $\mu$  broad, colour lighter than stroma, with thread-like hyaline paraphyses (Fig. 5); spores, cylindrical with round ends or ellipsoidal, dark brown, 16—20  $\mu$  long, 6—8  $\mu$  broad; basidia, small (Fig. 6).

On *Broussonetia papyrifera* VENT. (Peking; Oct. 1910).

On *Prunus persica* S. et Z. (Peking; Oct. 1910).

On *Morus alba* L. (Peking; May 1911).

The present species differs from *N. Lecanidium* (SPEG.) SACC., the only hitherto known species in this genus, in the size and from of its spores, the length of its basidia and presence of paraphyses.

**Actinonema Rosæ** (LIB.) FR. SACC., Syll. III. p. 408; SORAUER, Pflzkrankh. II. p. 406; ENGLER, Pflzfam. I. 1<sup>\*\*</sup> p. 370 fig. 194.

On *Rosa laevigata* MICH. (Fengtai near Peking; Oct 1910).

**Diplodia maura** C. et ELL. SACC., Syll. III. p. 341.

On *Pirus Malus* L. (Peking; Jan. 1911).

**Diplodia Mori** WESTD. SACC., Syll. III. p. 351; SORAUER, Pflzkrankh. II. p. 406; BERLESE, Fungi moric. fasc. VI, n. 22 tab. 52 fig. 10—13.

On *Morus alba* L. (Shashi, Hupei; Oct. 3, 1908).

**Stagonospora prominula** (B. et C.) SACC. SACC., Syll. III. p. 446.

On *Pirus Malus* L. (Peking; Oct. 1910).

Here this fungus appears commonly on the same leaves as *Mycosphaerella Pomacearum* SACC., but the present species can be easily distinguished from the other with the naked eye by its having spots of a deeper colour and with dark brown periphery.

**Septoria convolvulina** SPEG. SACC., Syll. XVI. p. 966.

On *Calystegia sepium* R. BR. (Peking; Oct. 1910).

**Septoria Chrysanthemi** ALLESCH. SACC., Syll. IX. p. 542.  
On *Chrysanthemum indicum* L. (Peking; Oct. 1910).

**Septoria Violæ** WESTD. SACC., Syll. III. p. 518.  
On *Viola Patrinii* DC. (Mentoukou, near Peking; Oct. 1910).  
On *Viola* sp. (Peking; Oct. 1910).

**Septoria Polygonina** THUEM. SACC., Syll. III. p. 554.  
On *Polygonum orientale* L. var. *pilosum* MEISN. Peking;  
Oct. 1910).

According to my observation, this fungus is accompanied by a certain *Phyllosticta*-form that is very similar to *P. polygonorum* SACC. Since the fact, that the spores of two kinds like *Septoria* and *Phyllosticta* are formed sometimes in one and the same species was proved by the infection experiments of Dr. KLEBAHN, Dr. VOGLINO has also verified that *Phyllosticta* and *Rhabdospora* on eggplants belong to the same species. In my former examination, I have found that the spores of *Phoma nipponia* NOMURA (more correctly *Diaporthe* or *Phomopsis orientalis* SACC. et SPEG.) and *Rhabdospora curvula* BERL. on *Morus alba* L. appear in one pycnidium. Therefore it may be concluded that these two species considered as different ones hitherto, must be regarded as one. The causes of abnormal sporeformation are, however, not yet known. From the above instances one can easily conclude that there are close relations among some (though not all) species of *Septoria* and *Phyllosticta*.

**Septoria Cirsii** NIESSL. SACC., Syll. III. p. 550.

On *Saussurea* sp. (Peking; Oct. 1910).

This is another instance of the abnormal sporeformation which I have mentioned above. In this species the other spore-form is very similar to *Phyllosticta profusa* SACC.

**Septoria Piri** sp. nov.

Spots, on leaves, roundish or elliptical, 2–5 mm. in diameter, often confluent forming large irregular specks, darkbrown, forming one or two small roundish grey centres, with black points, the size of which is about one half or one sixth the spot in diameter; pycnidia, amphigenous, densely gregarious, ovoidal, immersed into the tissue with large round mouth, pseudo-parenchymatic, darkbrown, 150–200  $\mu$  in diameter (Fig. 7);

spores, hyaline, 2-3 septate, thicker, at one end, guttulate, curved, 40-70  $\mu$  long, 4-5  $\mu$  broad (Fig. 8).

On *Pirus sinensis* LINDL. (Iichang, Hupei; Sept. 25, 1908).

The known fungi of the genus *Septoria* which are parasitic on *Pirus*, are comparatively many according to SACCARDO's Sylloge Fungorum, but they are quite different from the present species in many points, especially in the following important points:—

*S. Ralfsii* B. et Br., with straight spores, the length of which is only a half that of my species, a parasite on fruits (*Rhabdospora*?).

*S. nigerrima* FÜCK., with long black hair rings on pycnidia.

*S. piricola* DESM., epiphyllous, greyish white spots with narrow brown margin, and its pycnidia with white—olive-coloured hairings.

*S. perularum* (THÜM.) SACC., spores, pointed at both ends, and size of spores is one fourth of my species, a parasite on branches (*Rhabdospora*?).

***Septoria amphigena* sp. nov.**

Spots, on leaves, roundish, darkbrown, having greyish centre, 3-5 mm. in diameter; pycnidia, amphigenous, densely gregarious, at first covered by the epidermis, then ruptured, black deeper colour at the mouth part, spherical or ellipsoidal, 120-150  $\mu$  in diameter; conidia, greenish, long fusiform, 3-septate, 18-22  $\mu$  long, 1.5-2.0  $\mu$  broad, straight or slightly curved (Fig. 9).

On *Bupleurum falcatum* LINN. (Mentoukou near Peking; Oct. 1910).

Concerning the other species of *Septoria* which are parasitic on leaves of *Bupleurum*, according to SACCARDO's Sylloge Fungorum, I have found four that are different from the present species in the following points.

*S. Bupleuricola* SACC., pycnidia, epiphyllous and spores, without septum.

*S. Bupleuri* DESM., pycnidia, hypophyllous, and the length of spores is twice that of my fungus.

*S. diffusa* F. TASSI., pycnidia epiphyllous and conidia are one-celled.

*S. Bupleuri-falcati* DIEDICKE, pycnidia, epiphyllous and conidia are very large.

From the chief points of difference above mentioned, I could not identify my species with the known ones and have considered it to be a new species and that it may be named *S. amphigena* according to the distinct character of the fungus.

**Brachysporium Phragmitis** sp. nov.

Spots, along the nervures of leaves, linear black on upper-surface but yellowish on underside; mycelium, in the tissue, hyaline; conidiophores, epiphyllous, very numerous, solitary from the epidermils, with swelled base, usually one-septate, dark, 30–40  $\mu$  long, 6–7  $\mu$  broad, erect, simple (Fig. 10); conidia, ovoidal, hyaline in young stage but light brown in ripeness, 2-septate, not or somewhat constricted at the septa, 30–36  $\mu$  long, 10–16  $\mu$  broad (Fig. 11).

On *Phragmitis communis* L. (Peking; Oct. 1910).

Compared with the known species of this genus on *Gramineæ*, this fungus differs from them in many respects, especially in the following distinct points.

*B. flexuosum* (CORDA.) SACC., *B. gracile* (WALLR.) SACC. and *B. graminis* BOY. et JACZ. have conidiophores pushed out in bundleform, and the size of spores does not coincide with that of the present species. *B. gracile* (WALLR.) SACC. var. *gramineum* RABH. has a spore which is different from that of the present species in its number of septa and in its form.

**Clasterosporium Mori** SYD. SACC., Syll. XVI. p. 1060.

On *Morus alba* L. (Peking; Oct. 1910).

Very common in Peking and its vicinity.

**Clasterosporium Ancygdalearum** (PASS.) SACC. SACC. Syll. IV. p. 391; SORAUER, Pflzkrankh. II p. 447 fig. 59; PHILLIEUX, II. p. 337 fig. 395–396.

On *Prunus Persica* S. et Z. var. *vulgaris* MAXIM. (Peking; Oct. 1910).

On *Prunus Armeniaca* LINN. (Mentoukou near Peking; Oct. 1910).

**Helminthosporium turcicum** PASS. SACC., Syll. IV. p. 420; SORAUER, Pflzkrankh. II. p. 450.

On *Andropogon Sorghum* BROT. var. *vulgaris* HACK. (Jichang, Hupei; Sept. 24, 1908 and Peking; Oct. 1910).

**Helminthosporium Ravenelii** BERK. et CURT. SACC., Syll. IV. p. 412.

On the inflorescence of *Sporobolus indicus* R. BR. (Shashi, Hupei; Oct. 7, 1908 and Sangteh, Hunan; Oct. 1908).

**Helminthosporium Sapii** sp. nov.

Spots, on leaves, small, darkbrown, on underside deeper colour than the other, scattered, irregular, often confluent forming large irregular specks; conidiophores, amphigenous but mostly on underside, erect, simple, bundleform, 1-2 septate, dark, 26-28  $\mu$  long, 5  $\mu$  broad (Fig. 12); conidia, clubshaped, curved, 5-9-septate, dark, 34-56  $\mu$  long, 7-9  $\mu$  broad (Fig. 15).

On *Sapium sebiferum* ROXB. (Tauen-shen, Hunan; Oct. 1908).

When this fungus attacks a leafstalk and forms a black spot on it, the leaf becomes yellowish and finally falls to the ground; I have seen a tree that has lost a larger part of the leaves because of the fungus. It seems to me that the very useful host plant that is commonly cultivated in South China, has been greatly damaged by the fungus. This is no known fungus of *Dematiaceae* on the host plant, according to my researches, therefore I have considered this to be a new species.

**Helminthosporium Sesami** sp. nov.

Spots, on leaves, small, roundish, greyish having a dark brown margin, conidiophores, amphigenous, simple, solitary, swelled at the base, septate, 150-250  $\mu$  long, 6-8  $\mu$  broad, dark; conidia, long obclavate, roundish at the both ends, commonly curved, 5-9 septate, brown, 46-68  $\mu$  long, 8-11  $\mu$  broad, sometimes constricted at the septum of the first cell (Fig. 14).

On *Sesamum indicum* L. (Shashi, Hupei; Oct. 6, 1908).

As the only fungus of *Dematiaceae* which is parasitic on the host plant we have one *Cercospora* and no *Helminthosporium*, therefore, I have considered the present species to be new and that it may be named *C. Sesami* according to the name of the genus of the host.

**Alternaria Brassicae** (BERK.) SACC. SACC., Syll. IV. p.

546; SORAUER, Pflzkrankh. II. p. 456; PRILLIEUX, Malad. pl. agric. II. p. 240 fig. 338.

On *Brassica campestris* L. (Peking; Oct. 1910).

**Alternaria tenuis** NEES. SACC., Syll. IV. p. 545; ENGLER, I. 1\*\* p. 485 fig. 252; BERLESE, Fungi moric. fasc. VII. n. 2 tab. 63 fig. 4-6; PRILLIEUX, Malad. pl. agric. II. p. 233 fig. 336.

On *Fagopyrum esculentum* MOENCH. (Peking; Oct. 1910).

**Cercospora ricinella** SACC. et BERL. SACC., Syll. IV. p. 456.

On *Ricinus communis* L. (Peking; Oct. 1910).

**Cercospora viticola** (CES.) SACC. SACC., Syll. IV. p. 458; SORAUER, Pflzkrankh. II. p. 452.

On *Vitis vinifera* L. (Qui-chou, Hupei; Sept. 29, 1908). Mentoukou near Peking; Oct. 1910 and Peking; Oct. 1910).

This is the only disease on leaves of vines in China which I have seen; the spots being smaller in size than those in Japan but appear in larger numbers and the damage caused by it must be very great. The spots with concentric rings which one may observe in this species in Japan can not be found on it here, nevertheless the forms of both the natives are exactly the same.

**Cercospora Nicotianæ** ELL. et EV. SACC. Syll. XI. p. 621.

On *Nicotiana tabacum* L. (Shashi, Hupei; Oct. 4, 1908).

**Cercospora tosensis** P. HENN. SACC., Syll. XVIII. p. 604.

On *Solanum nigrum* L. (Peking; Oct. 1910).

**Cercospora personata** (B. et C.) ELL. SACC., Syll. IV. p. 439.

On *Arachis hypogaea* L. (Jichang, Hupei; Sept. 25, 1908. Tauen-shen, Hunan; Oct. 1908. Peking; Oct. 1910).

**Cercospora polymorpha** BUBAK. SACC., Syll. XVIII. p. 597.

On *Malva sylvestris* L. (Peking; Oct. 1910).

**Cercospora gossypina** COOK. SACC., Syll. IV. p. 441.

On *Gossypium herbaceum* L. (Iichang, Hupei; Sept. 24, 1908. Shashi, Hupei; Oct. 1908. Peking; Oct. 1910).

In the cotton fields of South China as well as in the fields of the North this fungus is very common and presume the damage caused by it would be very great.

**Cercospora Sesami** ZIMM. SACC., Syll. XVIII. p. 595.

On *Sesamum indicum* L. (Iichang, Hupei; Sept. 24, 1908).

**Cercospora Ipomeæ** WINT. SACC., Syll. X. p. 663.

On *Pharbitis hederacea* L. (Mentoukou near Peking; Oct. 1910).

**Cercospora canescens** ELL. et MART. SACC., Syll. IV. p. 435.

On *Phaseolus Mungo* L. var. *radiatus* BAK. (Iichang, Hupei; Sept. 24, 1908).

**Cercospora Aleuritidis** sp. nov.

Spots, on leaves, black on upper surface, darkbrown with yellowish brown central part on underside, roundish, 6–10 mm. in diameter, conidiophores, amphigenous, pushing out from a stomata 4–5 in bundleform, 2–3 septate, dark, but lighter towards the tips, 20–40  $\mu$  long, 4  $\mu$  broad (Fig. 15); conidia, cylindrical with roundish both ends, frequently obelavate, straight or curved, 4–8 septate, hyaline, guttulate, 40–90  $\mu$  long, 4–5  $\mu$  broad (Fig. 16).

On *Aleurites cordata* ARG. (Prov. Sangteh, Hunan; Oct. 12, 1908).

Because I do not know a fungus of this genus to be parasitic on leaves of *Aleurites cordata*, which is one of the most useful of the cultivated trees in South China, I have considered this fungus to be a new species.

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## EXPLANATION OF PLATE I.

Fig. 1 and 2. *Macrophoma Soliporæ* sp. nov.

Fig. 3 and 4. *Coniothyrium Kraunhiæ* sp. nov.

Fig. 5 and 6. *Nathopathella sinensis* sp. nov.

Fig. 7 and 8. *Septoria Peri* sp. nov.

Fig. 9. *Septoria amphigena* sp. nov.

Fig. 10 and 11. *Brachysporium Phragmitis* sp. nov.

Fig. 12 and 13. *Helminthosporium Sapii* sp. nov.

Fig. 14. *Helminthosporium Sesami* sp. nov.

Fig. 15 and 16. *Cercospora Aleuritidis* sp. nov.

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